

Installation Instructions



EUROLIGHT LD6230

Professional 6-Channel 10 A Dimmer Pack with DMX and Analog Control

EN

EN Important Safety Instructions



Terminals marked with this symbol carry electrical current of sufficient magnitude to constitute risk of electric shock.

Use only high-quality professional speaker cables with ¼" TS or twist-locking plugs pre-installed. All other installation or modification should be performed only by qualified personnel.



This symbol, wherever it appears, alerts you to the presence of uninsulated dangerous voltage inside the enclosure - voltage that may be sufficient to constitute a risk of shock.



This symbol, wherever it appears, alerts you to important operating and maintenance instructions in the accompanying literature. Please read the manual.



Caution

To reduce the risk of electric shock, do not remove the top cover (or the rear section). No user serviceable parts inside. Refer servicing to qualified personnel.



Caution

To reduce the risk of fire or electric shock, do not expose this appliance to rain and moisture. The apparatus shall not be exposed to dripping or splashing liquids and no objects filled with liquids, such as vases, shall be placed on the apparatus.



Caution

These service instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operation instructions. Repairs have to be performed by qualified service personnel.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

11. Use only attachments/accessories specified by the manufacturer.



12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid

injury from tip-over.

13. Unplug this apparatus during lightning storms or when unused for long periods of time.

14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

15. The apparatus shall be connected to a MAINS socket outlet with a protective earthing connection.

16. Where the MAINS plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.



LEGAL DISCLAIMER

TECHNICAL SPECIFICATIONS AND APPEARANCES ARE SUBJECT TO CHANGE WITHOUT NOTICE AND ACCURACY IS NOT GUARANTEED. BEHRINGER IS PART OF THE MUSIC GROUP (MUSIC-GROUP.COM). ALL TRADEMARKS ARE THE PROPERTY OF THEIR RESPECTIVE OWNERS. MUSIC GROUP ACCEPTS NO LIABILITY FOR ANY LOSS WHICH MAY BE SUFFERED BY ANY PERSON WHO RELIES EITHER WHOLLY OR IN PART UPON ANY DESCRIPTION, PHOTOGRAPH OR STATEMENT CONTAINED HEREIN. COLORS AND SPECIFICATIONS MAY VARY FROM ACTUAL PRODUCT. MUSIC GROUP PRODUCTS ARE SOLD THROUGH AUTHORIZED FULLFILLERS AND RESELLERS ONLY. FULLFILLERS AND RESELLERS ARE NOT AGENTS OF MUSIC GROUP AND HAVE ABSOLUTELY NO AUTHORITY TO BIND MUSIC GROUP BY ANY EXPRESS OR IMPLIED

UNDERTAKING OR REPRESENTATION. THIS MANUAL IS COPYRIGHTED. NO PART OF THIS MANUAL MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING AND RECORDING OF ANY KIND, FOR ANY PURPOSE, WITHOUT THE EXPRESS WRITTEN PERMISSION OF MUSIC GROUP IP LTD.

ALL RIGHTS RESERVED.

© 2012 MUSIC Group IP Ltd.

Trident Chambers, Wickhams Cay, P.O. Box 146, Road Town, Tortola, British Virgin Islands

LIMITED WARRANTY

§ 1 Warranty

① This limited warranty is valid only if you purchased the product from a MUSIC Group Authorized Reseller in the country of purchase. A list of authorized resellers can be found on BEHRINGER's website behringer.com under "Where to Buy", or you can contact the MUSIC Group office closest to you.

② MUSIC Group* warrants the mechanical and electronic components of this product to be free of defects in material and workmanship if used under normal operating conditions for a period of one (1) year from the original date of purchase (see the Limited Warranty terms in § 4 below), unless a longer minimum warranty period is mandated by applicable local laws. If the product shows any defects within the specified warranty period and that defect is not excluded under § 4, MUSIC Group shall, at its discretion, either replace or repair the product using suitable new or reconditioned product or parts. In case MUSIC Group decides to replace the entire product, this limited warranty shall apply to the replacement product for the remaining initial warranty period, i.e., one (1) year (or otherwise applicable minimum warranty period) from the date of purchase of the original product.

③ Upon validation of the warranty claim, the repaired or replacement product will be returned to the user freight prepaid by MUSIC Group.

④ Warranty claims other than those indicated above are expressly excluded.

PLEASE RETAIN YOUR SALES RECEIPT. IT IS YOUR PROOF OF PURCHASE COVERING YOUR LIMITED WARRANTY. THIS LIMITED WARRANTY IS VOID WITHOUT SUCH PROOF OF PURCHASE.

§ 2 Online registration

Please do remember to register your new BEHRINGER equipment right after your purchase at behringer.com under "Support" and kindly read the terms and conditions of our limited warranty carefully. Registering your purchase and equipment with us helps us process your repair claims quicker and more efficiently. Thank you for your cooperation!

§ 3 Return materials authorization

① To obtain warranty service, please contact the retailer from whom the equipment was purchased. Should your MUSIC Group Authorized Reseller not be located in your vicinity, you may contact the MUSIC Group Authorized Fulfiller for your country listed under

“Support” at behringer.com. If your country is not listed, please check if your problem can be dealt with by our “Online Support” which may also be found under “Support” at behringer.com. Alternatively, please submit an online warranty claim at behringer.com BEFORE returning the product. All inquiries must be accompanied by a description of the problem and the serial number of the product. After verifying the product’s warranty eligibility with the original sales receipt, MUSIC Group will then issue a Return Materials Authorization (“RMA”) number.

② Subsequently, the product must be returned in its original shipping carton, together with the return authorization number to the address indicated by MUSIC Group.

③ Shipments without freight prepaid will not be accepted.

§ 4 Warranty Exclusions

① This limited warranty does not cover consumable parts including, but not limited to, fuses and batteries. Where applicable, MUSIC Group warrants the valves or meters contained in the product to be free from defects in material and workmanship for a period of ninety (90) days from date of purchase.

② This limited warranty does not cover the product if it has been electronically or mechanically modified in any way. If the product needs to be modified or adapted in order to comply with applicable technical or safety standards on a national or local level, in any country which is not the country for which the product was originally developed and manufactured, this modification/adaptation shall not be considered a defect in materials or workmanship. This limited warranty does not cover any such modification/adaptation, regardless of whether it was carried out properly or not. Under the terms of this limited warranty, MUSIC Group shall not be held responsible for any cost resulting from such a modification/adaptation.

③ This limited warranty covers only the product hardware. It does not cover technical assistance for hardware or software usage and it does not cover any software products whether or not contained in the product. Any such software is provided “AS IS” unless expressly provided for in any enclosed software limited warranty.

④ This limited warranty is invalid if the factory-applied serial number has been altered or removed from the product.

⑤ Free inspections and maintenance/repair work are expressly excluded from this limited warranty, in particular, if caused by improper handling of the product by the user. This also applies to defects caused by normal wear and tear, in particular, of faders, crossfaders, potentiometers, keys/buttons, guitar strings, illuminants and similar parts.

⑥ Damage/defects caused by the following conditions are not covered by this limited warranty:

- improper handling, neglect or failure to operate the unit in compliance with the instructions given in BEHRINGER user or service manuals;

- connection or operation of the unit in any way that does not comply with the technical or safety regulations applicable in the country where the product is used;
- damage/defects caused by acts of God/Nature (accident, fire, flood, etc) or any other condition that is beyond the control of MUSIC Group.

⑦ Any repair or opening of the unit carried out by unauthorized personnel (user included) will void the limited warranty.

⑧ If an inspection of the product by MUSIC Group shows that the defect in question is not covered by the limited warranty, the inspection costs are payable by the customer.

⑨ Products which do not meet the terms of this limited warranty will be repaired exclusively at the buyer’s expense. MUSIC Group or its authorized service center will inform the buyer of any such circumstance. If the buyer fails to submit a written repair order within 6 weeks after notification, MUSIC Group will return the unit C.O.D. with a separate invoice for freight and packing. Such costs will also be invoiced separately when the buyer has sent in a written repair order.

⑩ MUSIC Group Authorized Resellers do not sell new products directly in online auctions. Purchases made through an online auction are on a “buyer beware” basis. Online auction confirmations or sales receipts are not accepted for warranty verification and MUSIC Group will not repair or replace any product purchased through an online auction.

§ 5 Warranty transferability

This limited warranty is extended exclusively to the original buyer (customer of authorized reseller) and is not transferable to anyone who may subsequently purchase this product. No other person (reseller, etc.) shall be entitled to give any warranty promise on behalf of MUSIC Group.

§ 6 Claim for damage

Subject only to the operation of mandatory applicable local laws, MUSIC Group shall have no liability to the buyer under this warranty for any consequential or indirect loss or damage of any kind. In no event shall the liability of MUSIC Group under this limited warranty exceed the invoiced value of the product.

§ 7 Limitation of liability

This limited warranty is the complete and exclusive warranty between you and MUSIC Group. It supersedes all other written or oral communications related to this product. MUSIC Group provides no other warranties for this product.

§ 8 Other warranty rights and national law

① This limited warranty does not exclude or limit the buyer’s statutory rights as a consumer in any way.

② The limited warranty regulations mentioned herein are applicable unless they constitute an infringement of applicable mandatory local laws.

③ This warranty does not detract from the seller’s obligations in regard to any lack of conformity of the product and any hidden defect.

§ 9 Amendment

Warranty service conditions are subject to change without notice. For the latest warranty terms and conditions and additional information regarding MUSIC Group’s limited warranty, please see complete details online at behringer.com.

* MUSIC Group Macao Commercial Offshore Limited of Rue de Pequim No. 202-A, Macau Finance Centre 9/J, Macau, including all MUSIC Group companies

The BEHRINGER EUROLIGHT LD6230 Dimmer Pack was developed to meet the highest demands of light engineering. Its wide-ranging functions make it an all-purpose workhorse for various commercial applications (TV studios, theatre or live events).

The EUROLIGHT LD6230 has all the important features needed to control your lighting equipment, yet its controls are clearly arranged and simple to use. You can select between digital DMX or analog control. You get trouble-free operation with the extensive LEDs used for signal error detection.

Important Information

- ♦ Installation as well as initial operation must be performed by qualified personnel. Always assure that your LD6230 is completely disconnected from the mains before removing the casing cover.
- ♦ The LD6230 was designed for indoor use only.
- ♦ Please keep in mind that sudden temperature changes (e.g. bringing your equipment from colder environments into warmer environments) may cause condensation on electronic components, leading to possible equipment damage and physical harm to the operator.
- ♦ Please adhere to all applicable national safety standards during installation.
- ♦ Please read the installation instructions and the enclosed user's manual in their entirety to familiarize yourself with the LD6230 and all of its functions. Please follow all instructions and store both the installation instructions and the manual in a safe place for future reference.
- ♦ Please assure that your EUROLIGHT is sufficiently cooled and that it is not placed near heat sources that could cause overheating.
- ♦ If you want to run your EUROLIGHT on mains voltage other than factory-specified voltage, contact the nearest BEHRINGER service center.
- ♦ To effectively limit harmonic currents and avoid voltage fluctuations that could affect other electrical appliances, connect this equipment to an AC outlet that complies with all applicable technical standards. In all other cases, contact your local power supply provider for advice prior to usage.

Mains/Illuminant Connectors

To facilitate additional flexibility, your dimmer pack has a connector terminal strip. Cable bushings for connecting to the mains and your illuminants are located in the back. Flexibility is further enhanced with the option to retrofit a CEE connector and a 16-pin HARTING connector.

Both fixed and mobile installations require compliance with IEC 61010-1:2001 (EN 6110-1:2001). In particular, a 3-phase separator (pursuant IEC60947-1 and IEC60947-3) needs to be included in the installation. This separator needs to be labeled according to IEC 60417-50008 and IEC 0417-5007.

To assure compliance with Directive 89/336/EEC, only use specified upstream line filters with your EUROLIGHT. Using it without line filters specified by BEHRINGER may lead to electromagnetic interference. More detailed information on this subject can be found at behringer.com.

Safety and Initial Operation

As soon as you connect your LD6230 to the mains, internal controls are activated. The six automated fuses (circuit breakers) can all handle 10 A and serve as overload protection for the connected equipment.

- ♦ Please keep in mind that activating circuit breakers 1, 2, 3, 4, 5 or 6 also means that the respective channels can conduct voltage.

Electronic controls are additionally protected with triple high-sensitivity fuses located on the main board.

♦ Defective fuses must be replaced with fuses with identical rating!

The LD6230 is a Class I device in which a low-Ohm protective ground wire is an integral part of its safety design.

During the installation, make sure that a low-Ohm protective conductor ($< 0,1 \text{ Ohm}$) exists between all bare metal parts and the grounding on the main connector.

Phase	Output Channels					
	CH 1*	CH 2	CH 3*	CH 4	CH 5*	CH 6
L1	X	X				
L2			X	X		
L3					X	X

* Activation of control electronics and respective output channel

Connector Terminal Strip

The connector terminal strip of your LD6230 is laid out for cables with diameters between 0.326 mm^2 (AWG 22) and 4 mm^2 (AWG 12). When using flexible access lines, cable end contacts corresponding to manufacturer specifications have to be used. To assure good contact, skin the cable endings between 9 - 13 mm.

During the installation, all applicable national standards need to be adhered to.

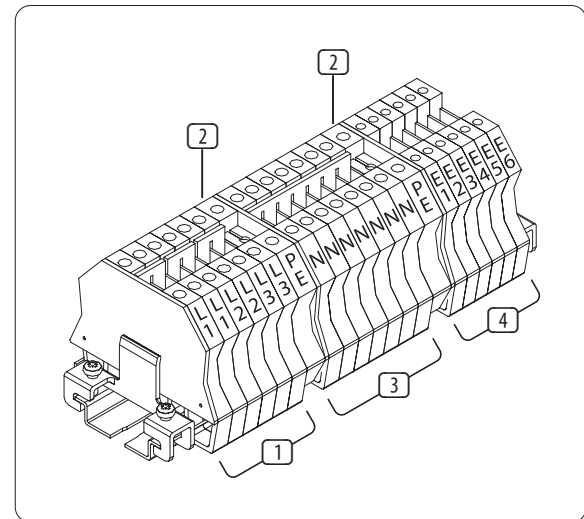


Illustration: LD6230 connector terminal strip

When your LD6230 leaves the assembly plant, all incoming and outgoing neutral conductor connectors ③ are bridged. The incoming phases L1/L1, L2/L2 and L3/L3 ① are always connected to one another in pairs and switched to the overload protection of the channels 1 to 6. They protect output connectors E1 to E6 ④. Each of the channels can handle currents of maximum 10 Amperes. The green-yellow conductors ② (PE) may only be used as protective conductors.

The lowest cable gauge between L1 and L3, incoming neutral conductor (N) and protective earth (PE) is 4 mm^2 (AWG 12). For outgoing channels E1 to E6, use cables with gauges corresponding to the loads used (2.5 mm^2 (AWG 14) or 1.5 mm^2 (AWG 16)).

Output assessment [A]	Nominal cross section [mm^2] (EU)	AWG (USA)
6-10	1.5	16
13-16	2.5	14
18-25	4	12

- ♦ During the installation, please adhere to all manufacturer instructions. Regardless from mains supply voltage, the maximum output current of the EUROLIGHT LD6230 is 10 A per dimmer circle.

- ◆ Please make sure that each dimmer load is connected to a separate channel. Never connect more than one output to just one common neutral conductor.
- ◆ **ATTENTION:** Due to electrocution danger, do not use your dimmer pack if there are bare cables visible.

Connection Options for Flexible Usage

Output Connector (HARTING)

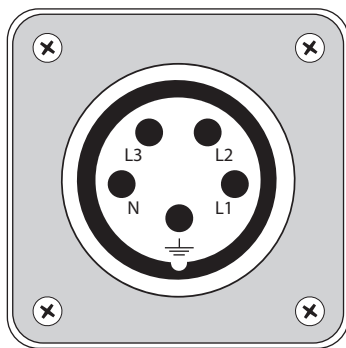
In the back of your LD6230 there is a cable bushing for connecting your illuminants. Open the flap on the top of the LD6230 to get to the terminal clamps used for this purpose. Here you have the option to retrofit a 16-pin HARTING connector. To do that, you first have to remove the back-bearing cover sheet and connect the HARTING connector to the terminal clamps.

PIN assignment/HARTING connector					
PIN 1	Phase channel 1	E1	PIN 9	Neutral channel 1	N
PIN 2	Phase channel 2	E2	PIN 10	Neutral channel 2	N
PIN 3	Phase channel 3	E3	PIN 11	Neutral channel 3	N
PIN 4	Phase channel 4	E4	PIN 12	Neutral channel 4	N
PIN 5	Phase channel 5	E5	PIN 13	Neutral channel 5	N
PIN 6	Phase channel 6	E6	PIN 14	Neutral channel 6	N
PIN 7	free	—	PIN 15	free	—
PIN 8	free	—	PIN 16	free	—

Ground wires need to be fastened to their respective PE connectors

CEE Power Supply Connector

Also located in the back is a cable bushing for the mains supply. Here, you can retrofit a 5-pin CEE 32 A mains connector by removing the back-bearing cover sheet and connect the CEE high-voltage connector to the connecting terminal. The following illustration shows how the connections are allocated:



CEE connector pin allocation

- ◆ Removable mains connector cables with mains interconnections (pursuant IEC60320) must match the minimal load-carrying capacity of the connector or must comply with the IEC60799 standard. The interconnection and the cable must comply with prevalent nominal values (maximal voltage and current).
- ◆ During the installation, please adhere to the instructions provided by the connector manufacturer.

Specifications

Channels

Number	6
Load per channel	0.2 A min./10 A max.
Maximal load per channel	10 A using a 3-phase connector
Frequency	50/60 Hz

Inputs

Power supply	3-phase connector, internal terminal block/PG cable screw joint, CEE connector (optional installation by qualified personnel)
Analog	0 to +10 V via 8 pin DIN
Digital	DMX512 via XLR 5 pin

Outputs

Digital	DMX512 via XLR 5 pin
Load	Internal terminal block/PG cable screw joint, HARTING® (optional installation by qualified personnel)

System Fuses

Load securing per channel	10 A cable protection switch (type C)
Control section fuse	2 x T 100 mA H/250 V 1 x T 160 mA H/250 V for voltage range 220 - 230 V (EU) 2 x T 160 mA H/250 V 1 x T 315 mA H/250 V for voltage range 120 V (UL)

Power Supply

Voltage

USA/Canada	120 V~, 60 Hz
Europe/U.K./Australia	240 V~, 50 Hz
Maximum power consumption	3 x 20 A

Dimensions/Weight

Dimensions (H x W x D)	approx. 3 1/8 x 19 x 15 1/16" approx. 84.3 x 482.6 x 403.8 mm
Weight	approx. 21.6 lbs / 9.80 kg

BEHRINGER continuously strives to assure the highest quality standards possible. Required modifications may be implemented without prior notice. Technical data and the appearance of the unit may deviate from the above values and/or illustrations.

FEDERAL COMMUNICATIONS COMMISSION COMPLIANCE INFORMATION



Responsible Party Name: **MUSIC Group Services US Inc.**
 Address: **18912 North Creek Parkway,
 Suite 200 Bothell, WA 98011,
 USA**
 Phone/Fax No.: **Phone: +1 425 672 0816
 Fax: +1 425 673 7647**

EUROLIGHT LD6230

complies with the FCC rules as mentioned in the following paragraph:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Important information:

Changes or modifications to the equipment not expressly approved by MUSIC Group can void the user's authority to use the equipment.